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GREER, BURNS & CRAIN  
300 S WACKER DR  
25TH FLOOR  
CHICAGO, IL 60606

EXAMINER

SWEARINGEN, JEFFREY R

ART UNIT	PAPER NUMBER
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2145

MAIL DATE	DELIVERY MODE
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06/18/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

09/804,907

Applicant(s)

SEGAWA ET AL.

Examiner

Jeffrey R. Swearingen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 and 7 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Response to Arguments*

1. Applicant's arguments filed 5/29/2007 have been fully considered but they are not persuasive.
2. As a preliminary matter, Applicant was not rejected with U.S. 5,853,721. Applicant was rejected with U.S. 5,835,721. The previous arguments presented by Applicant were addressed in the Advisory Action of 10/12/2006. No new arguments were presented with the RCE. All arguments were addressed and the office action was fully responsive.
3. Applicant argued that Donahue failed to disclose the storage of reply information in a memory. No data can be transmitted in a computer network without being stored in a memory. A memory encompasses registers, buffers, and queues. All such data must be "stored" in order to exist. In the selection of Donahue previously recited, "ClarisWorks" was requested to be transmitted. The reply to this information – the reply information – is "ClarisWorks". In order for "ClarisWorks" to be transmitted, "ClarisWorks" must be stored somewhere on the server side – such as a memory. It is impossible for a network adapter or similar device to load data, convert it into appropriate transmission signals, and transmit said signals without the data being "stored" in a "memory" which allows the data to be controlled for the appropriate transmission rate, therefore preventing overflows, dropped packets, and congestion.
4. The reply information destroyed by Donahue is the information prepared for transmission in the network adapter, stored temporarily in its buffers before transmission. When a connection is dropped, a network adapter will clear its buffers since no data may be transmitted.
5. It is unclear if Applicant is challenging commonly accepted networking fundamental theory and practice from the arguments challenging "inherency" or "the Examiner's own personal opinion" concerning the requirement that data must be stored prior to transmission by a network interface card, and that the network interface card clears the data if the connection does not exist. Applicant is arguing non-patentable features of the claim.
6. The use of buffers, queues, or memories in networking can be traced back as early as 1975, in the seminal publication by Leonard Kleinrock, Queueing Systems. Kleinrock is also known as the creator of ARPANET.

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7. A simple version of a transmitter for data requiring the storage of data previously is shown in Morris Mano' Computer System Architecture, third edition. The Asynchronous Communication Interface, a predecessor to the commonly used network interface card, uses registers (memories) to read bytes from the data bus. The ability to clear a register – destroy data present in the register – is fundamental to the use of device memories and digital logic design. The ability of clearing a register is routinely taught in introductory undergraduate digital logic courses.
8. The use of registers in a NIC is taught in Derfler's How Networks Work. The chapter on "How Network Interface Cards Work" clearly shows the "interface card must buffer the data" and shows the presence of a RAM on board a NIC.
9. These pieces of evidence, plus additional ones in the references cited section of this action, should be sufficient evidence to answer Applicant's demand for "objective proof." The word "inherent" was never used in this office action.
10. Applicant argued that Donahue failed to associate the reply unit with a port number corresponding to the connection. Donahue used AppleTalk for example in column 11, line 6. RFC 1742, published January 1995, in section 4.4 illustrates the use of AppleTalk ports for connections.
11. Applicant argued that Donahue failed to reply to requested information. Donahue is the sender-side of a request-receive client server network. The request occurred inherently prior to the transmission by Donahue, and was invoked by the server receiving the request.
12. Applicant's arguments concerning a memory are repeated for the Gordon reference, but were previously addressed in this office action with evidence that a network interface card requires buffering to transmit data. Data must be stored somewhere in Gordon in a memory in order to exist.
13. Applicant argued that Gordon failed to use port numbers. See column 8, lines 19-47, which use a port interface and tunneling protocols. The use of both a port interface and tunneling protocols in tandem require the presence of a port number for these to work in conjunction with each other. Any IP system will further use port numbers. For example, the HTTP protocol used commonly for web servers operates off of port 80, and the SMTP email protocol functions on port 25.
14. The rejection under 35 U.S.C. 112, second paragraph, is withdrawn.

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***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Donahue et al. (US 5,835,721).

3. In regard to claims 1, 4, and 5, Donahue disclosed:

*a reply unit configured to transmit reply information as a reply to a request issued by the external communication device, and to store the reply information in a memory; column 9, lines 25-55*

*a connection monitoring unit configured to monitor a connection between the data communication device and the external communication device, the connection for transmitting the reply information from the reply unit; column 9, line 35 and*

*a transmission unit configured to transmit the reply information corresponding to the connection stored in said memory to said external communication device based on a result of the monitoring by said connection monitoring unit if the transmission unit determines that the connection has been abnormally cut off. Column 9, lines 35-36*

The sending computer is notified when a connection is terminated during transmission.

4. In regard to claim 2, Donahue further disclosed:

*a reply information destruction unit which destroys the reply information stored in said memory if the reply information destruction unit determines that the connection is normally released based on the result of the monitoring by said connection monitoring unit. Inherent to Donahue. When a connection is broken between two computers, a computer must "dump" or "destroy" stored information in a memory related to that connection. If the computer storing the information fails to do so, a memory leak builds which causes system performance degradation and memory overrun errors.*

5. In regard to claim 3, Donahue further disclosed:

*the reply information includes at least identification information for identifying the request and reply data, wherein the external communication device retrieves the reply information corresponding to the abnormally cutoff connection from among a plurality of the reply information stored in a memory while using the identification information and makes a transaction match based on the reply data, the transaction including communication processes relating to at least the request and the reply information. Column 8, lines 1-19*

6. In regard to claim 7, Donahue further disclosed:

*the reply unit is configured to store the reply information associated with an IP address and a port number corresponding to the connection in said memory, and the transmission unit retrieves the reply information corresponding to the abnormally cutoff connection from the reply information stored in said memory while using the IP address and the port number corresponding to the abnormally cutoff connection as a key. Column 8, lines 1-19*

7. Claims 1-5 and 7 are rejected under 35 U.S.C. 102(e) as being anticipated by Gordon et al. (US 6,671,729 B1).

8. In regard to claims 1, 4, and 5, Gordon disclosed:

*a reply unit configured to transmit reply information as a reply to a request issued by the external communication device, and to store the reply information in a memory; column 7, lines 29-41*

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*a connection monitoring unit configured to monitor a connection between the data communication device and the external communication device, the connection for transmitting the reply information from the reply unit; column 7, lines 1-22 and*

*a transmission unit configured to transmit the reply information corresponding to the connection stored in said memory to said external communication device based on a result of the monitoring by said connection monitoring unit if the transmission unit determines that the connection has been abnormally cut off. Column 7, line 60 – column 8, line 9*

9. In regard to claim 2, Gordon further disclosed:

*a reply information destruction unit which destroys the reply information stored in said memory if the reply information destruction unit determines that the connection is normally released based on the result of the monitoring by said connection monitoring unit. Inherent to Gordon. When a connection is broken between two computers, a computer must "dump" or "destroy" stored information in a memory related to that connection. If the computer storing the information fails to do so, a memory leak builds which causes system performance degradation and memory overrun errors.*

10. In regard to claim 3, Gordon further disclosed:

*the reply information includes at least identification information for identifying the request and reply data, wherein the external communication device retrieves the reply information corresponding to the abnormally cutoff connection from among a plurality of the reply information stored in a memory while using the identification information and makes a transaction match based on the reply data, the transaction including communication processes relating to at least the request and the reply information. Column 7, lines 42-52*

11. In regard to claim 7, Gordon further disclosed:

*the reply unit is configured to store the reply information associated with an IP address and a port number corresponding to the connection in said memory, and the transmission unit retrieves the reply information corresponding to the abnormally cutoff connection from the reply*

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*information stored in said memory while using the IP address and the port number corresponding to the abnormally cutoff connection as a key. Column 7, lines 42-52*

### **Conclusion**

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.
- Walrand, Jean et al. High-Performance Communication Networks. Second Edition. Morgan Kaufmann Publishers. 2000. pp 21-24, 51-63, 85-86, 88, 104-105.
- Derfler, Jr., Frank et al. How Networks Work. Sixth Edition. Que Publishing. October 2002. pp 94-99.
- Waldbusser, S. et al. RFC 1742: AppleTalk Management Information Base II. January 1995.
- Kleinrock, Leonard. Queueing Systems. Vol. 1: Theory. John Wiley & Sons. 1975. pp 270.
- Mano, M. Morris. Computer System Architecture. Third Edition. Prentice Hall. 1993. pp 398-400.
- Wagner, Bill et al. The Complete Idiot's Guide to Networking. Second Edition. Que Publishing. 1999. pp 4-30, 79-96.
13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.



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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Cardone can be reached on 571-272-3933. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Jason Cardone  
Supervisory Patent Examiner  
Art Unit 2145

JRS